NORTHWEST OREGON AREA ECOLOGY GROUP NEWSLETTER

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April 2004

The Northwest Area Ecology Group is an association of multi-talented ecologists from the Mt. Hood, Siuslaw and Willamette National Forests, the Columbia River Gorge National Scenic Area, and the Eugene and Salem Bureau of Land Management Districts. The group focuses on gathering information and formulating solutions to complex ecological questions in the Region. Through their own efforts, and affiliation with ecologists with Oregon State University, University of Oregon, Oregon Department of Fish and Wildlife, and private consultants, they have developed products most resource managers use every day.

On-Going Projects

Fire History and Fire Regimes of the Willamette Valley Fringe and Foothills

Jane Kertis, Ecologist,
Willamette and Siuslaw
National Forests

This project includes:

1. Reconstruction of regional variation in historical fire regimes in the foothills of the Coast and Cascade Ranges that fringe the Willamette Valley.
2. Reconstruction of the historical stand structures and compositions that resulted from these fire regimes.

This project was funded through National Fire Plan monies for FY02 through FY04 activities. In FY02 we developed a sampling protocol for collecting fire history information. The study area included all the townships that contained Salem or Eugene BLM lands that were included within, or intersected the EPA Willamette Valley Ecoregion (and formed the Valley and Foothills fire zone for fire regime classification). Potential sites were clearcut units that were cut less than 16 years ago whose pre-cut stand was greater than 100 years old. A grid of townships was created, with the goal to fill as many cells as possible (108 potential cells) to get an extensive view of fire regime distribution. We would then sample more intensively in a subset of sites to get a fine scale idea of fire regimes.

In FY02 we sampled 32 sites (representing 32 township cells) across BLM owned lands in the Valley fringe to get a broad brush idea of the fire history and fire regimes throughout the area. In FY03 we sampled an additional 6 sites, totaling 38 sites for coarse scale fire regime distribution examination. We installed 33 additional plots in 7 general areas to determine fine scale variability in fire regimes and reconstruct historical stand conditions resulting from these fire regimes.

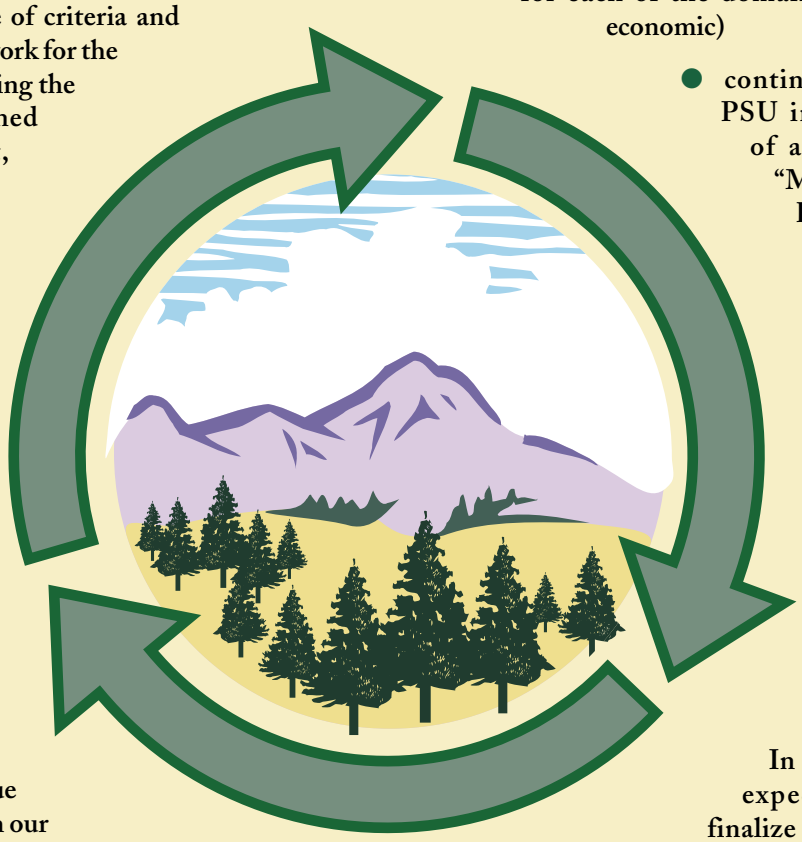
We've collected 1380 samples. Approximately 25% have fire scar information, with the remaining representing age class information. Every site has fire scar information, with sites varying from single scars per sample to those containing 3 fire scars per sample.

FY04 is the final year of this project. Data is being analyzed, a formal presentation will be made to the Districts, and a report (and peer review journal article) will be written.

Sustainability Monitoring

Jeanne Rice, Mt. Hood National Forest

During 1999 through 2001, the Mt. Hood National Forest, in partnership with Portland State University, participated in the Local Unit Criteria and Indicator Development (LUCID) pilot test to determine whether adopting a program of sustainability monitoring could enhance current monitoring programs at the local scale in the Forest Service. Two key outcomes of the LUCID pilot test were the use of a systems approach to monitoring and development of locally relevant suite of criteria and indicators as the framework for the monitoring process. Using the tools and lessons learned from the LUCID test, the Mt. Hood National Forest is transitioning into a monitoring program that can answer key sustainability questions and build a long-term method for looking at our forests. It provides a holistic approach to management, which incorporates the ecological, social and economic systems, and its a communication tool to engage in dialogue about sustainability with our partners and publics.



Status:

After completion of the LUCID pilot test, the project team began exploring the application of criteria and indicators at the Forest level to provide tools for managers in monitoring, preparing for plan revision and improve decisions at the project level. At the same time, the project team continues to work on refinement of the core criteria and indicators list from the LUCID test, work with the State and external partners to share and merge data from outside the Forest boundaries, work on a first approximation sustainability assessment and to utilize communication opportunities to share findings and experience in the process of transition to sustainability monitoring.

In 2003, the project team began the Olallie Lake case study to test a systems-based methodology to analyze sustainability management options and which facilitated the discernment and analysis of relationships and interactions among sustainability indicators and across ecological, social and economic systems. Other products completed included:

- summary reports documenting the LUCID C&Is for each of the domains (social, ecological, economic)
- continued partnership with PSU including completion of a management thesis "Monitoring Sustainable Recreational Use in the Olallie Lakes Watershed."
- began transition of the 2002 Forest Plan monitoring report to sustainability monitoring including holding a workshop with program managers on systems-thinking and incorporating sustainability principles.

In 2004, the project team expects to complete and finalize documentation of the Olallie Lake case study approach outlining the methodology and lessons learned in incorporating values at the project level. At the Western Roundtable for Sustainable Forests, Gary Larsen, Mt. Hood Forest Supervisor, gave a presentation on the applications side of sustainability management. Through the remainder of 2004, the team will continue to work on the transition of the Forest plan monitoring report, work on applications of criteria and indicators, explore a recreation genuine savings analysis test application, compile current sustainability efforts in the region, continued partnership with PSU and contribute to a journal publication/peer review on social indicators. This is an ongoing project.

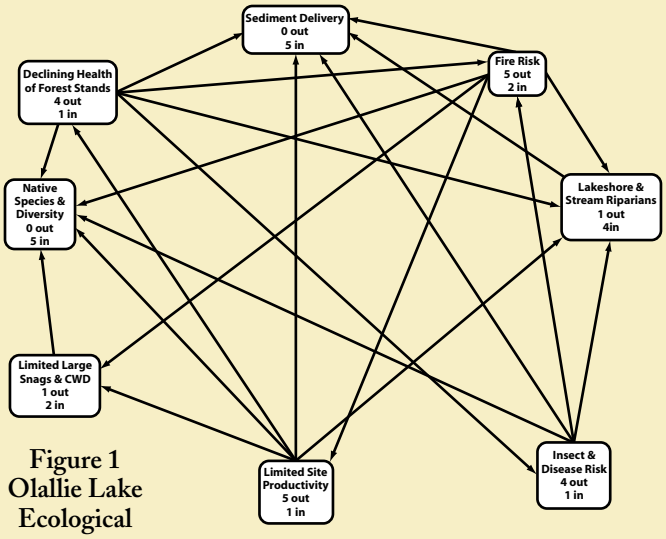


Figure 1
Olallie Lake
Ecological

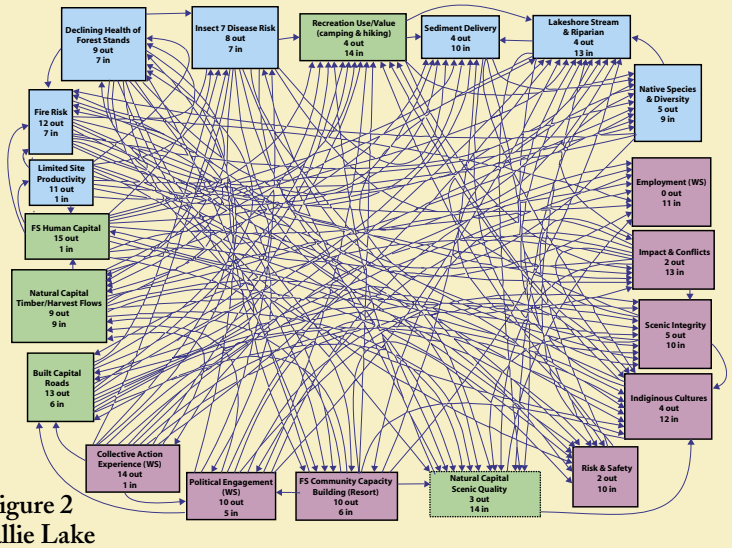


Figure 2
Olallie Lake
Systems

Example of ecological indicators and their relationships within the ecological system (Fig 1) and across all (ecological, social & economic) systems (Fig 2).

2005 Expected Products:

- Develop protocols documenting framework and steps in the application of criteria and indicators at a forest-level scale. A cookbook guide for other Forests.
- Develop white papers and other reporting techniques to communicate the utility of the data as a current management tool and for long term monitoring
- Report describing the current monitoring program as compared to sustainability monitoring and Montreal Process C&I.
- Continue refinement of sustainability assessment.
- Develop a strategy, with the State and external partners, to gather data for the "zone of influence" and for implementing sustainability monitoring.
- Providing workshops and other communication opportunities, which share and contribute to a continuing dialog on achieving progress in sustainable forest management (i.e. providing ecological information & technical expertise to Gary Larsen, the regional representative to the state Montreal C&I).

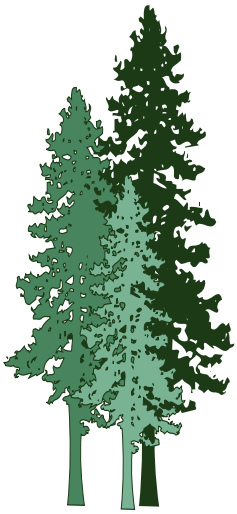
Stand Development and Successional Pathways of Northwest Oregon Forests

Jane Kertis, Ecologist, Willamette and Siuslaw National Forests

This project includes:

1. Describing the range of stand components (structure and composition) that currently exists across northwest Oregon
2. Developing successional pathway models for the range of vegetation types that occur across northwest Oregon

The monies allocated for this project in FY02 were reallocated to help boost fire suppression costs so no progress was made in that fiscal year. In FY03 Current Vegetation Survey (CVS) data for the Mt. Hood, Willamette and Siuslaw National Forests, and Salem and Eugene BLM Districts, and other ecology databases were used to classify and describe the current stand conditions across NW Oregon federal lands. A process for teasing apart CVS data into similar seral condition was designed and implemented. Attributes of structure (e.g. basal area, tree density by size class) and composition (hardwood/conifer cover, dominant species and indicator species cover) are being used to describe stand conditions. This information was summarized at the plant association group/sub-series levels to assess appropriate resolution to develop successional pathways. A report outlining our process, using the Sitka spruce zone as an example was completed and is being reviewed by various users and researchers. In FY04 we are using our reviewed process to develop successional pathways for 3 vegetation groups. These pathways will include common trajectories under non-managed and managed scenarios and described using structural and compositional attributes. The goal is to develop pathways for every vegetation type located in northwest Oregon. The project completion date is FY07.



Status of Whitebark Pine Populations in North Central Oregon

Jeanne Rice, Mt. Hood National Forest

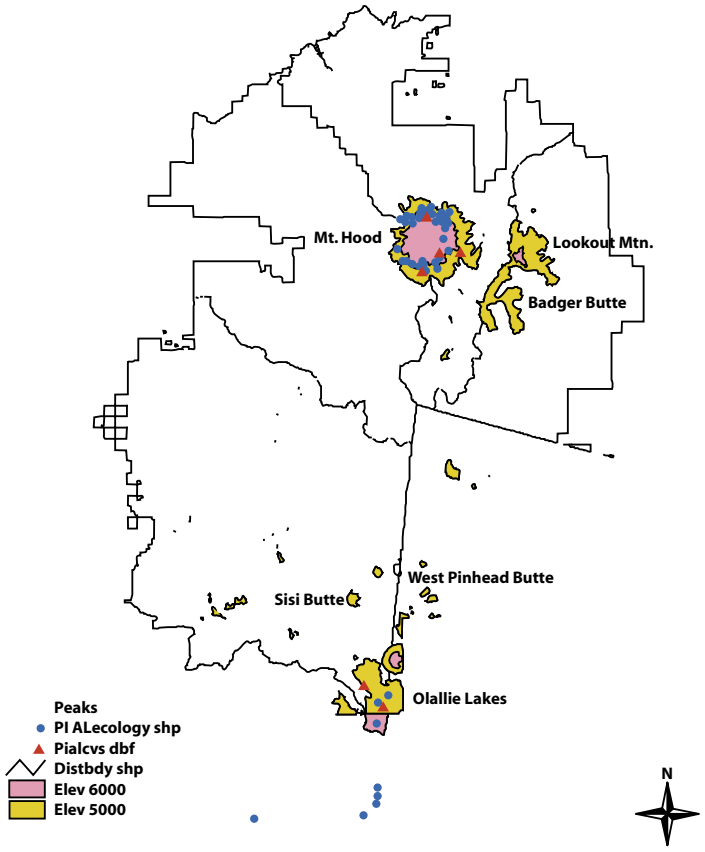
Whitebark pine (WBP) is a keystone species in high elevation forest stands throughout the West, providing watershed protection, habitat and food for many birds and mammals, and considerable aesthetic value. There is increasing concern about the status of this species because of the widespread and well-documented decline of whitebark pine in the Rocky Mountains. Local surveys have revealed substantial blister rust infection and recent mortality along with older mortality from mountain pine beetle. Solid evidence of the extent and condition of whitebark pine populations is needed to quantify the status of whitebark pine and determine the need for a conservation management plan and for restoration opportunities.

Status:

In 2003, condition surveys were completed on the Mt. Hood NF. Surveys were started on the Willamette NF and Warm Springs Reservation. Cone collections were also conducted on the Mt. Hood and Warm Springs and seed sent to the Dorena Genetic Resource Center for blister rust resistance testing and production of seedlings.

Fall 2003 cone collection on Mt. Hood

In fall 2003, the survey information collected was compiled and summarized. Initial analysis showed blister rust infection rates ranged from 23-90% with an average of 62% of live trees on the Mt. Hood NF. Stands were delineated on air photos and a GIS layer was created showing distribution of whitebark pine stands on the Mt. Hood. In 2004, the expectation is to complete analysis of survey information incorporating historical distribution information and documenting assessment of whitebark pine stands on the Mt. Hood NF and to complete condition surveys and begin analysis on Willamette NF and Warm Springs.



Whitebark Pine Sites

Mt. Hood NF whitebark pine sites from ecology and CVS plots.

In 2005, in collaboration with the Confederated Tribes of Warm Springs, the Mt. Hood and Willamette NF will complete a conservation plan addressing restoration opportunities. In addition, with funding, information collected would be incorporated into existing interpretative programs describing whitebark pine's unique biology and ecology, its decline due to the exotic disease white pine blister rust, mountain pine beetle epidemics and suppression of historic wildfires and the role it plays in the health of high elevation forest ecosystems. The objective of the interpretative program would be to increase awareness of the volcano's whitebark pine communities and increase interest for restoration of whitebark pine.

Oak and Pine Habitat Inventory, Mapping, and Partnership Planning for Northwest Oregon

Hugh Snook, Ecologist, Marys Peak Resource Area, Salem District BLM,
and Nancy Wogan, Ecologist, Eugene BLM

This project includes inventorying and mapping of existing oak and pine habitats. Mapping of existing oak and ponderosa pine stands is being completed using aerial photos, digital orthophotos, and Landsat-TM imagery. The orthophoto quads serve as the map base, and all stands regardless of ownership are mapped. Field visits are made to determine classifications and to verify each vegetation class mapped. The minimum mapping unit is 2 hectares (5 acres). The classification scheme and approach expanded on what was developed by Klock et al. (1998) for the Willamette Valley.

As of FY04, mapping of existing oak and ponderosa pine habitats has been completed in Eugene BLM, and is ongoing on Salem BLM districts, and the south end of the Willamette National Forest.

In FY05 we want to complete mapping on the Willamette National Forest and begin on the Mt. Hood National Forest and Columbia River Gorge National Scenic Area. Mapping of existing oak and pine habitat across northwest Oregon should be complete in FY06. The final product is a GIS coverage of the current extent and distribution of oak and ponderosa pine stands across federal lands in northwest Oregon. The mapping effort should help increase the awareness of these unique habitats, and possibly identify opportunities for willing landowners to pursue conservation activities with these limited habitat types.

The project is also collecting ecological data in oak and pine habitats on federal lands in northwest Oregon.

Meadow on Monmouth Peak looking south to Mary's Peak, Coast Range.

We collected existing information on oak and ponderosa pine vegetation from the Willamette Valley and foothills and adjacent areas (Willamette Valley, Puget Sound, and SW Oregon) into a common database in FY03. We are currently determining initial community types and their distribution patterns. In FY05 we hope to develop a uniform sampling strategy for existing communities across NW Oregon and begin collecting information that will allow us to reconstruct stand types to better aid in restoration activities. A plant communities guide of current and historical information on oak and pine communities will be produced in FY07.

Through collaboration with other governmental, educational, and conservation organizations, we are disseminating information, developing educational materials, and sharing resource expertise in restoration planning and implementation. We are working with the American Bird Conservancy, Soil and Water Conservation Districts, State University Extension Service and other interested parties to complete a coordinated oak restoration guidebook and associated video for private landowners. The objective of the guide is to inspire landowners (including federal landowners) to undertake restoration and provide them with tools, resources and contacts to assist them in their efforts. The guide and video will be completed in FY04. In FY05 we will continue collaboration with above partners to publish and distribute the landowners guide and video, and aid in the development of a multi-media presentation.

Get Involved! The following working groups are always looking for interested participants:

Fire Ecology Working Group

Contacts: Jane Kertis (jkertis@fs.fed.us or 541-750-7192) or Hugh Snook (Hugh_Snook@blm.gov or 503-315-5964)
This group has been meeting for almost 2 yrs now. They co-sponsored a fire ecology conference for western Oregon (May 02), and are currently developing a library of fire ecology literature. They have 2 info sharing meetings a year on special topics (e.g. National Fire Plan), and one field trip year.

Special Habitats Working Group

Contacts: Jane Kertis (jkertis@fs.fed.us or 541-750-7192) or Hugh Snook (Hugh_Snook@blm.gov or 503-315-5964)
This group just started meeting this year. They are working on mapping and inventorying special habitats in NW Oregon. They have 2-3 info sharing meetings/yr and a field trip.

Special Habitats Inventory and Mapping

Hugh Snook, Ecologist, Marys Peak Resource Area, Salem District BLM

What are special habitats? In Northwest Oregon, they are almost anything that falls outside the widespread upland conifer stands that blanket the Coast Range and much of the west slope of the Cascades. Special habitats include oak savanna and woodland, meadows, rock gardens, ponds, and swamps. Because these types provide habitat components not found over large areas of the landscape, the vegetation and wildlife associated with them represent a large component of the biodiversity in Northwest Oregon. For this reason, they have been identified in federal land management planning documents for protection and restoration.

The Special Habitats Working Group, one of the focused working groups associated with the Northwest Oregon Ecology Group, has identified a need to inventory these special habitats on National Forests and BLM Districts in northwest Oregon. While previous efforts have resulted in inventory and mapping in some areas of the province, large areas remain to be inventoried. The Special Habitats working group decided to test a province-wide collaborative inventory process, incorporating existing inventory data, to provide efficiency and consistency.

In 2003 and 2004, ten USGS quads on Salem District BLM lands will be inventoried and mapped using remote sensing of satellite imagery with ground truthing. Special habitat classification will be based largely on the following documents: Special Habitat Management Guide Willamette National Forest, J. Dimling, C. McCain, 1993, and The Plant Association and Management Guide, Willamette National Forest, S. Logan, M. Hemstrom, and W. Pavlat, 1987. The results of this effort will be used to refine the procedures for inventory for broader use in Northwest Oregon. The goal is to complete mapping of Willamette National Forest, and Eugene and Salem BLM Districts in 2005, and Mt. Hood and Siuslaw National Forest and Columbia River Gorge and in 2006.

NORTHWEST OREGON ECOLOGY GROUP WEB SITE!

Cindy McCain, Ecologist, Willamette and Siuslaw National Forests

The NW Oregon ecology group website provides a platform for sharing information. Currently files available include plant association guides, map products (potential natural vegetation, condition class, fire regime, etc.), other publications (Land type association report for Coast), and other data.

In FY04, the group has been working with the Forest Service Regional Ecologist in preparing the Ecoshare website (www.reo.gov/ecoshare). We've been collaborating with the contractors in designing formats, search functions, image libraries, and putting up GIS layers. The new version is on a test website, but will be moved to the Ecoshare site in April 2004.

Sara Lovtang (Ecologist, Siuslaw NF) has been deeply involved in tailoring the guide PDF formats for easy access and use on the web. Currently, she has begun posting photos of many of the plant associations described in the guides to the test website. These are photos which were omitted from the hardcopy publications due to cost/size limitations. She will be providing similar services for the riparian guides as they are finalized.

NW Oregon ecology plot data may be available on the Ecoshare website by the end of FY04, pending documentation and organizational development.

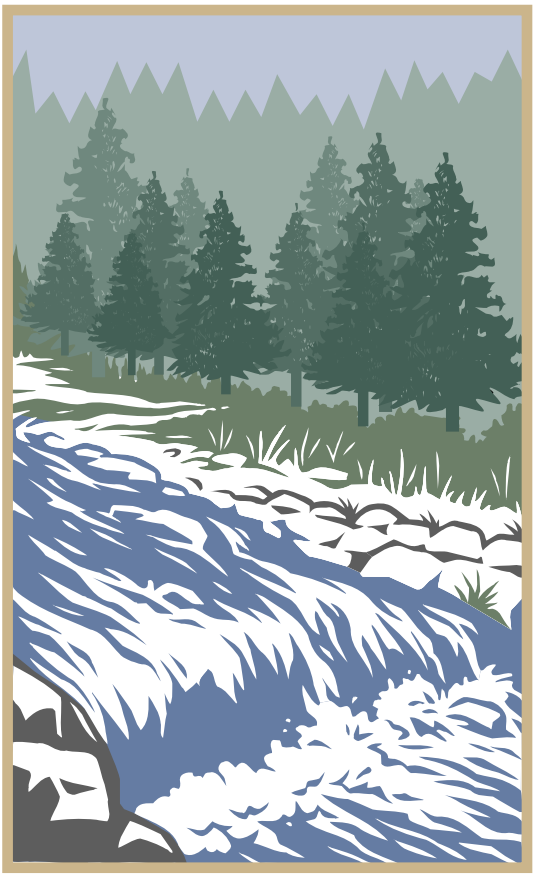
Riparian plant communities of Northwest Oregon

Cindy McCain, Willamette and Siuslaw National Forests

Classifying streamside plant communities is occurring on unmanaged sites on BLM and USFS lands in the North Coast and Westside Cascades, as well as non-federal Willamette Valley streams. We are also classifying wetland plant communities in the NW Oregon bioregion and supplying data for modeling occurrence of plant communities by watershed for OWEB use.

This project folds in data collected by a variety of projects, including plot data from The Nature Conservancy, Oregon Natural Heritage Program, Mt. Hood NF, Siuslaw and Willamette NFs, and Salem and Eugene BLM.

This project was funded by the USFS, BLM, EPA, and OWEB. The objective is to describe common native-dominated plant communities and environmental factors associated with their occurrence. This information is intended to aid management of riparian areas, support restoration projects, and add to understanding of habitat relationships.



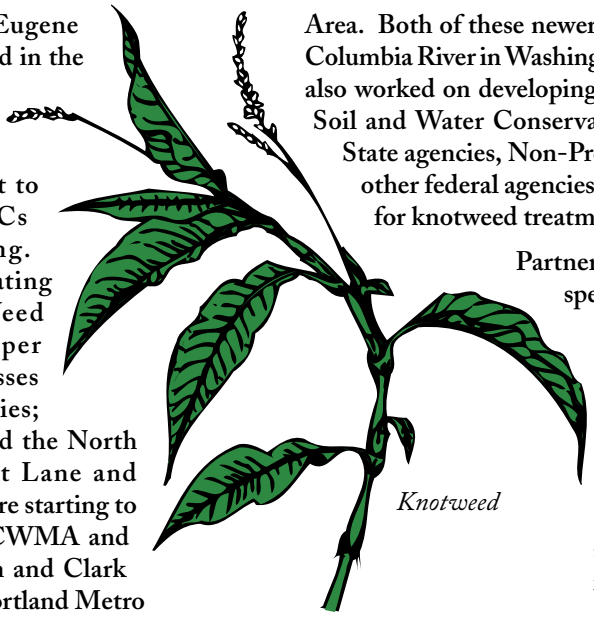
In FY04, draft wetland and streamside guides have been prepared. John Christy, wetland specialist from the Oregon Natural Heritage Information Center, will make the wetland draft available March 2004. The streamside draft contains community descriptions of over 60 types. This includes cover/constancy tables, descriptions of typical geomorphic surfaces and soils, non-native species occurrences, and wetland ratings. Photos are included where available. A section on community distributions uses valley cross-sections to illustrate topographic influence on community occurrence. As of Feb. 2004, illustrations for the streamside guide are being finalized and formats refined. Reviewers from universities, Oregon Natural Heritage Plan, BLM and FS have been identified.

PDF versions will be posted on the Ecoshare website, where the upland guides for NW Oregon are also available.

Northwest Oregon Weed Management Partnership

Jenny Lippert, Botanist, Willamette National Forest and Claire Hibler, Salem BLM

The Willamette NF and Salem and Eugene Districts of the BLM have been involved in the development of the Northwest Oregon Weed Management Partnership for the past 2 years. In 2003, a Partnership Coordinator was hired using Payment to County funding from multiple RACs and some additional BLM funding. His accomplishments include facilitating development of 3 Cooperative Weed Management Areas (CWMA): Upper Willamette CWMA which encompasses East Lane, Linn and Benton Counties; the Marion, Polk Yamhill CWMA and the North Coast CWMA which includes West Lane and Lincoln counties. Two more CWMAs are starting to develop and include the North Coast CWMA and a Clackamas, Multnomah, Washington and Clark County, WA CWMA centered in the Portland Metro Area. Both of these newer CWMAs include counties along the Columbia River in Washington. The Partnership Coordinator has also worked on developing a strong list of partners that include Soil and Water Conservation Districts, Watershed Councils, State agencies, Non-Profits, City and County employees and other federal agencies as well as submitting grant proposals for knotweed treatment throughout the basin.



Knotweed

Partnership members have participated in 2 species- specific working groups- one for false brome and another for knotweed species. The purpose of these working groups is to coordinate work we cannot hope to achieve alone given funding and personnel constraints. Projects fall into one of the following categories: education and outreach, prevention, control and research and inventory.

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The NW Area Ecology Group relies on a variety of professionals throughout the area to support their activities. The following ecologists and biologists also contribute to the program.

Pat Ormsbee, Wildlife Biologist, Willamette National Forest.
Specialties: Bats.

Bruce McCune, Botanist, Oregon State University.
Specialty: Lichens.

Linda Geiser, Lichenologist and Air Quality Specialist, Siuslaw National Forest.
Specialty: Lichens.

Tom O'Neil, Ecologist, Northwest Habitat Institute.
Specialties: Oak restoration, biodiversity data management.

John Christy, Wetland Ecology, Mosses
Oregon Natural Heritage Information Center

Martin Brown, Statistics Consultant

Fred Hall, Plant Ecologist.
Specialty: Special Habitats.

Walt Kastner, Silviculturist, Siulsaw National Forest.
Specialty: Tree diseases.

Ralph Garano, Aquatic Ecologist, Earth Designs Consultants.
Specialties: Wetlands and Watershed Ecology; aquatic entomology, limnology.

Dave DeMoss, Silviculturist, Eugene BLM.
Specialty: Forest Ecology.

John Cissel, Research Liason, Western Oregon BLM.
Specialty: Landscape modeling.